

*T.J. Lovegrove,
Casting Pipes,
No 47,901,
Patented May 23, 1865.*

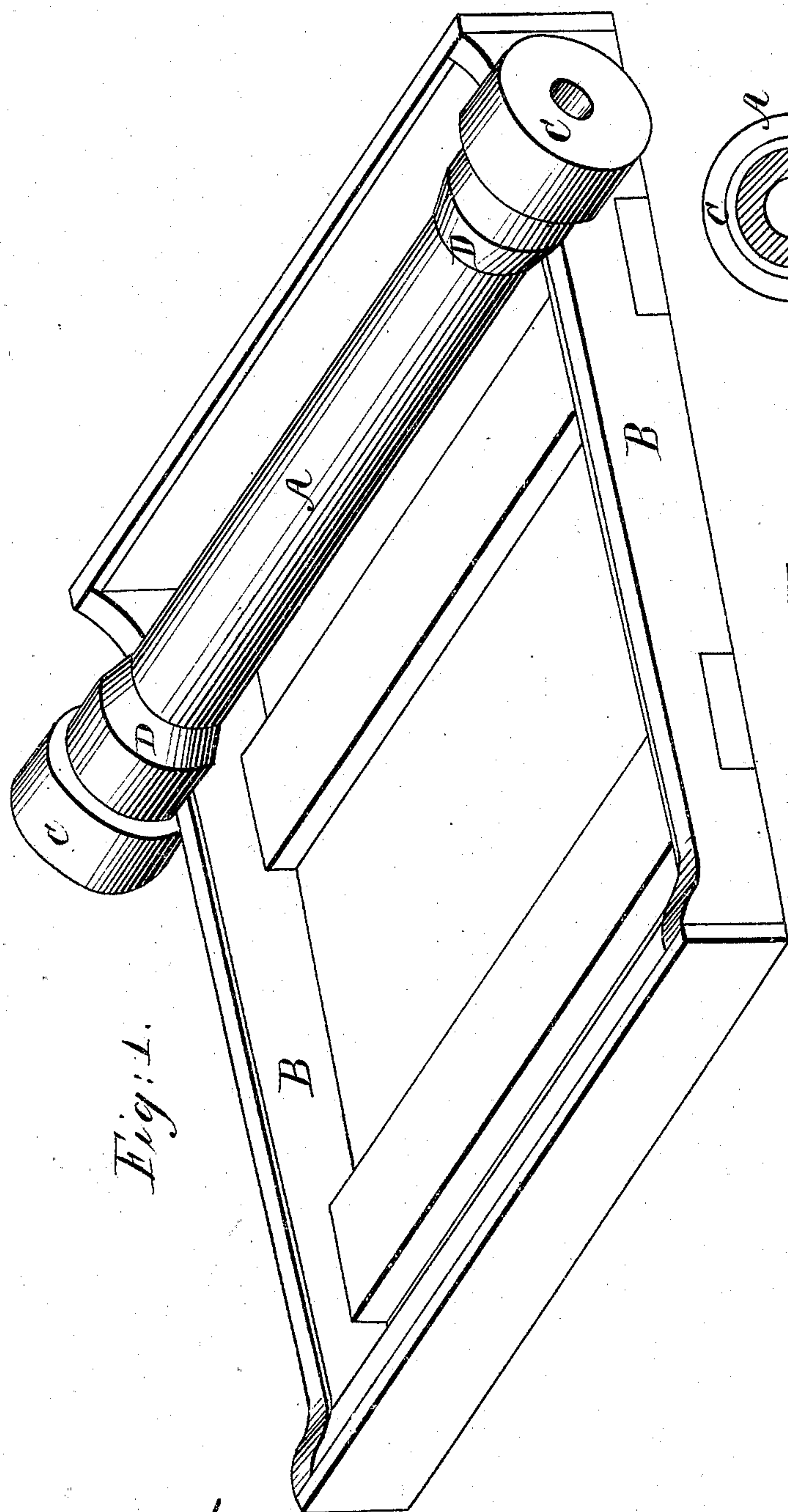


Fig: 1.

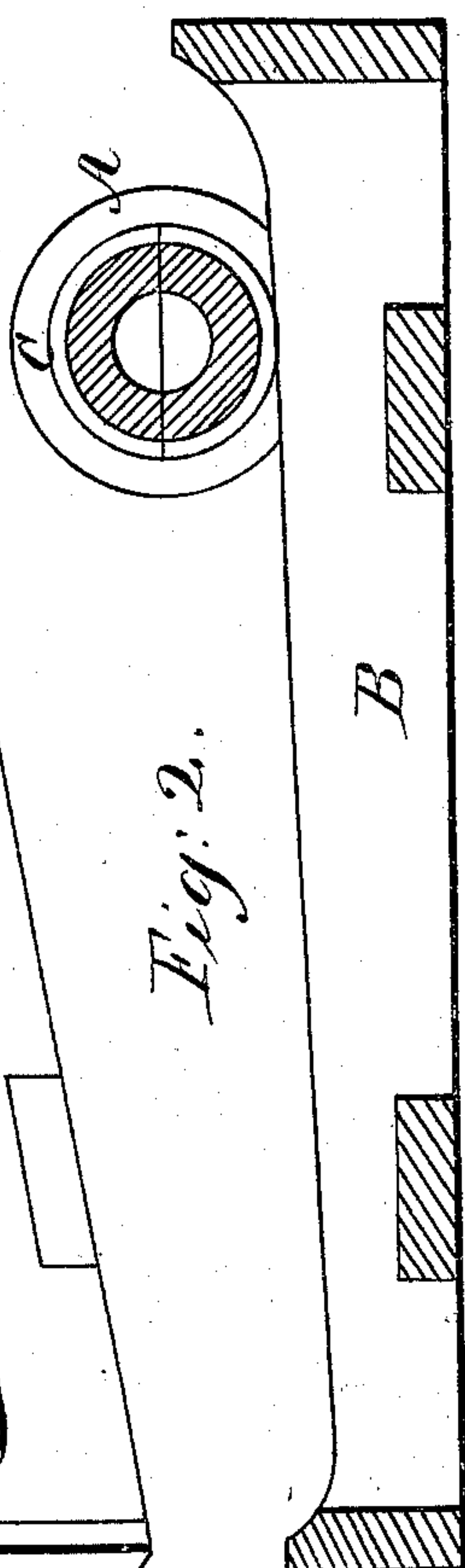


Fig: 2.

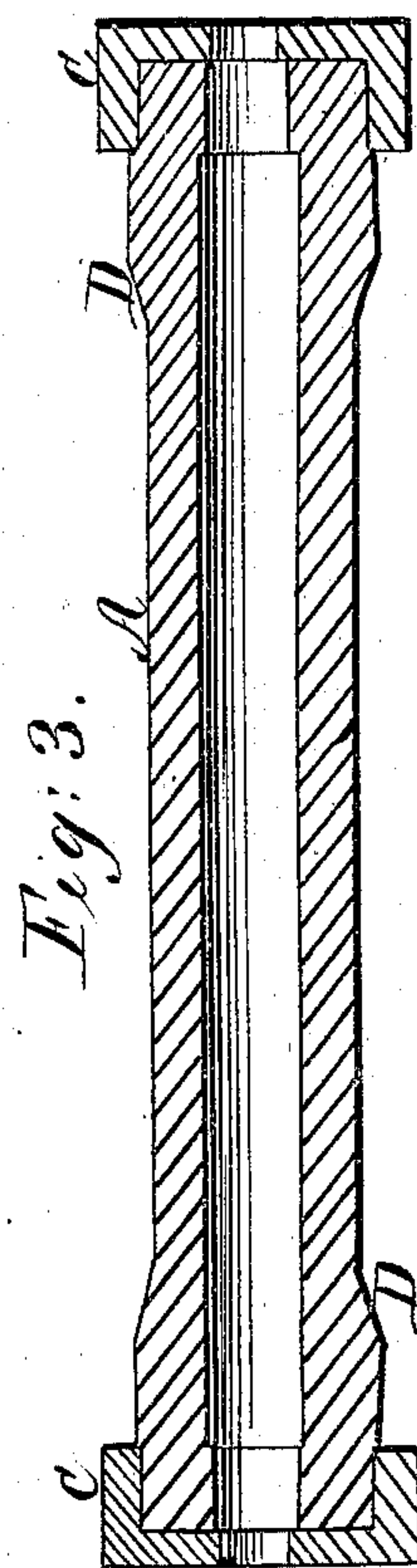


Fig: 3.

Witnesses.

*John A. Tauberschmidt
Wm W. Baldwin*

Inventor.

T. J. Lovegrove

UNITED STATES PATENT OFFICE.

THOS. J. LOVEGROVE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
HIMSELF AND HENRY BALDWIN, JR., OF SAME PLACE.

IMPROVEMENT IN CASTING PIPES.

Specification forming part of Letters Patent No. 47,901, dated May 23, 1865.

To all whom it may concern:

Be it known that I, THOMAS J. LOVEGROVE, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Method of Employing Centrifugal Force in Making Hollow Castings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a view, in perspective, of an apparatus for carrying out the objects of my invention. Fig. 2 represents a vertical longitudinal central section through the same, and Fig. 3 represents a longitudinal central section through the mold.

My invention relates to casting pipes and other hollow articles in a revolving mold; and my improvement consists in causing the mold when the molten metal has been poured into it to roll down an inclined plane of a length sufficient to allow the metal to set before reaching the bottom of the plane, and of such inclination as to generate a velocity of rotation sufficient to develop the centrifugal force required to form a perfect casting.

My invention further consists in forming the inclined plane like a railway and encircling the mold with flanges, rims, or wheels having a conical tread, in order that the mold may run properly on the ways and not roll off at one side.

In the accompanying drawings, which exemplify one mode of carrying out my invention, a mold, A, is shown as resting on an inclined plane or railway, B, which may be made of any desired length and inclination. An angle of even five degrees, however, will generally be found to give a velocity of rotation sufficient to generate the centrifugal force required to distribute the molten metal evenly against the inner surface of the mold. A sloping bank of earth with proper guides would of course answer for an inclined plane where economy is an object.

The mold A is composed of two semi-cylindrical pieces held together by caps C at each

end. Flanges or rims D may likewise be formed upon the mold to correspond with the railway, so as to keep the mold from running off of the side of the track.

In the operation of casting the mold is placed upon the upper end of the inclined plane and a quantity of metal sufficient to form the pipe run into it. The mold is then rolled down the plane, its velocity of course increasing as it descends. The centrifugal force thus created retains the molten metal in contact with the inner surface of the mold, while its rotation causes the metal to be distributed with uniform thickness over its surface. By the time the mold reaches the bottom of the incline the metal has become sufficiently set to retain the form imposed upon it. When sufficiently cooled, the caps C are removed, the semi-cylinder of the mold separated, and the pipe taken out.

The superiority of the pipe cast in rotary molds is well known to foundrymen. As I use metallic molds, (where it is not desired to have soft pipe,) my pipe is chilled and case-hardened, and thus resists corrosion much better than pipe cast in the ordinary way.

In all devices previous to my invention of which I have any knowledge the rotation of the mold has been effected by mounting the mold on a fixed rotating axis, which plan involves the use of expensive and cumbersome machinery, while by my improved plan the mold itself is the only machine employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Making hollow castings by rolling the mold containing the molten metal down an incline, planed substantially in the manner described.

2. The combination of flanges on a rotating mold with a railway for the purpose of giving the mold a parallel movement, as set forth.

In testimony whereof I have hereunto subscribed my name.

T. J. LOVEGROVE.

Witnesses:

WM. D. BALDWIN,
HENRY BALDWIN.